

IN THE CLAIMS:

1. (Previously Presented) A color electrophoretic display comprising at least one pixel operative to display visible light in a predetermined range of three or more wavelengths, each pixel comprising at least two sub-pixels which each comprise:

a color filter operative to absorb one sub-range of said predetermined range of wavelengths and pass the other wavelengths;

an electrophoretic media comprising two types of particles, each type of particle being operative to absorb a second and third sub-range of said predetermined range of wavelengths, respectively; and

means for separately controlling the spatial distribution of the respective particles in said electrophoretic media between visible and invisible locations;

wherein said fixed sub-ranges of the respective sub-pixels in each pixel are essentially non-overlapping and in combination cover essentially all of said predetermined range of wavelengths; and

wherein, in each sub-pixel, said second and third sub-ranges are different from each other, and cover essentially all of said predetermined range of wavelengths only in combination with the fixed sub-range of the related sub-pixel.

2. (Previously Presented) A color electrophoretic display according to claim 1, wherein the color filter is a color filter element.

3. (Original) A color electrophoretic display according to claim 1, wherein the electrophoretic media comprises the color filter as a colored fluid.

4. (Previously Presented) A color electrophoretic display according to claim 1, wherein said color filters and said particles are operative to transmit wavelengths that are not absorbed.

5. (Previously Presented) A color electrophoretic display according to claim 1, wherein said predetermined range of wavelengths substantially covers the entire spectrum of visible light.
6. (Previously Presented) A color electrophoretic display according to claim 1, wherein each pixel comprises three sub-pixels in which the fixed sub-ranges of the filter elements cover red, green, and blue wavelengths, respectively, such that the respective filter elements are operative to transmit cyan, magenta, and yellow light waves, respectively.
7. (Previously Presented) A color electrophoretic display according to claim 1, wherein said particles are operative to absorb red, green or blue, wavelengths, respectively, and thus to transmit cyan, magenta, or yellow wavelengths.
8. (Previously Presented) A color electrophoretic display according to claim 1, wherein said particles are operative to absorb cyan, magenta, or yellow wavelengths, respectively, and thus to transmit red, green or blue, wavelengths.
9. (Previously Presented) A color electrophoretic display according to claim 1, wherein said two particle types in each sub-pixel have different polarities.
10. (Previously Presented) A color electrophoretic display according to claim 2, wherein said electrophoretic media in each sub-pixel is contained in a visible pixel volume, providing for said visible locations, and in two reservoirs, each reservoir providing for invisible locations for particles of respective type.
11. (Previously Presented) A color electrophoretic display according to claim 10, wherein said means for separately controlling the spatial distribution of the respective particles comprises data electrodes and reset electrodes arranged in each reservoir.

12. (Previously Presented) A color electrophoretic display according to claim 10, wherein said reservoirs are covered by a black matrix such that particles residing in the respective reservoir are made invisible.

13. (Previously Presented) A color electrophoretic display according to claim 1, wherein each sub-pixel comprises a reflector reflective for light in said predetermined range of wavelengths, such that ambient light transmitted through said color filter element and through said electrophoretic media is reflected back and retransmitted through said color filter element.

14. (Previously Presented) A color electrophoretic display according to claim 1, further comprising a light source operative to emit light in said predetermined range of wavelengths through said color filter elements and through said electrophoretic media.

15. (Previously Presented) A color electrophoretic display according to claim 1 or 2, wherein said particles are all chosen from a group consisting of:

positively charged particles operative to absorb wavelengths of a first color,

negatively charged particles operative to absorb wavelengths of a second color,

positively charged particles operative to absorb wavelengths of a third color, and

negatively charged particles operative to absorb wavelengths of said third color,

such that the total number of particle types in the display is four.

16. (Previously Presented) A color electrophoretic display according to claim 1, wherein said electrophoretic media in at least one sub-pixel comprises a third particle type which is operative to absorb essentially the same sub-range of wavelengths as the corresponding color filter element in that sub-pixel.

17. (Previously Presented) A method of manufacturing a color electrophoretic display according to claim 1, using an ink-jet printing technology for filling said pixels with said electrophoretic media.

18. (Previously Presented) A method for driving a color electrophoretic display according to claim 10, comprising the steps of:

resetting each sub-pixel by moving the particles to their respective reservoir;

receiving pixel image information regarding an image to be displayed; determining a particle mixture corresponding to said image; and

filling each pixel volume with color particles thus forming said particle mixture.

19. (Previously Presented) A method according to claim 18, wherein the step of resetting each sub-pixel comprises the sub-step of:

applying reset voltages to reset electrodes in each sub-pixel,

and wherein the step of filling each pixel volume comprises the sub-steps of:

applying a fill voltage to said reset electrodes, said fill voltage being lower than said reset voltages,

controlling the number of particles entering each pixel volume by applying control voltages to data electrode in each sub-pixel;

removing any excess particles from the pixel volume by increasing the control voltages.

20. (Original) A method according to claim 18, wherein the step of filling each pixel volume is carried out simultaneously for both particle types in each sub-pixel.

21. (Original) A method according to claim 18, wherein the step of filling each pixel volume is carried out sequentially for each particle type in each sub-pixel.